



STATE OF WASHINGTON
DEPARTMENT OF COMMUNITY, TRADE AND ECONOMIC DEVELOPMENT
Energy Policy Division

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TO: Energy Facility Site Evaluation Council Members

FROM: Tony Usibelli, Director, CTED Energy Policy Division

SUBJECT: DUKE ENERGY CO₂ PROPOSAL – UPFRONT PAYMENT

The Department of Community, Trade and Economic Development (CTED), Energy Policy Division appreciates the opportunity to comment on the Duke Energy draft proposal for a Greenhouse Gas Mitigation Plan at the Satsop site. Our comments reference the latest proposal from Duke Energy, presented at the June 2, 2003, Energy Facility Site Evaluation Council (EFSEC) Executive Committee meeting.

We support the adoption of a plan that achieves real, significant reductions in CO₂ emissions, and applaud the Council's resolve to require the same. At the same time we recognize that the original site certificate had no mitigation requirements. A final determination should be fair to the company on those grounds too. If this were a new application, we would argue for a stronger requirement and an incremental increase in mitigation over that required of previous applicants. Greenhouse gas emissions from new power plants represent a significant addition to total statewide emissions. Recent requirements fall far short of what needs to be done in the long run to ultimately stabilize greenhouse gas emissions and reduce the impacts of human caused climate change.

Our principal concern with the Duke proposal is relatively simple. We support the "Sumas" approach, the assumption of 30 years operation at 100 percent capacity, and an additional fee for administrative costs on over and above payment for mitigation. We do not support a stream of payments over 30 years. Since any mitigation strategy will only reduce a relatively small fraction of total CO₂ emissions over the life of the plant, we urge EFSEC to require a single upfront payment from the developer. We also recognize that a single upfront payment may represent a potential hardship for the developer and would be willing to support a stream of payments (with appropriate discount factors) that does not exceed five years.

Up Front Payment Critical

We have discussed the payment stream issue with the Climate Trust, the organization with the most power plant CO₂ mitigation experience in the U.S. The Trust reports that it has never administered mitigation with a long stream of payments, nor has it heard of anyone that has. In fact, the Trust has turned down offers when the annual payments were too low. The stream of payments approach suffers from several problems:

- A series of smaller annual payments reduce the mitigation options that can be implemented;
- Administrative costs are increased;
- Risk that the full payment will not be made is greater; and
- Unit mitigation costs (\$/ton) are very likely to increase over time as the carbon markets mature and lower cost options are implemented.

All of these lead to less CO₂ mitigation.

Presumably, an organization like the Climate Trust could seek to capitalize the proposed stream of payments, acquiring capital upfront for mitigation that would reduce some of these problems. The Trust reports no knowledge of what kind of interest rate could be obtained, but supposes that it might be very high because of the risk that the power plant operator might go out of business and the stream of payments used for loan repayment might cease. In any case, a high interest rate, assuming it could be obtained, would significantly reduce funding that could be applied to mitigation. Our analysis then, compares upfront mitigation with incremental mitigation.

Achieving the greatest possible mitigation cost effectively is our goal, and is accomplished best through upfront payment. An upfront payment has the following advantages:

- It makes it more likely that you would achieve “economies of scale”- large, more cost effective mitigation projects;
- It increases the likelihood that you would have a wider range of mitigation options, as more types of projects are likely to apply for a larger fund endowment;
- It reduces administrative costs since projects would not have to be bid out each year;
- It guarantees payment (and therefore mitigation); and
- It achieves greater mitigation because less costly alternatives can be implemented (lower cost per pound of CO₂) and they would occur over the whole 30 years of the project’s lifespan.

The table below compares the levels of mitigation for one-time, five year, and thirty-year payment streams. (We have assumed a 2.5 percent inflation rate and an escalation in CO₂ mitigation costs of 5 percent and 10 percent/year.) Our analysis indicates that a lump sum upfront payment at the \$0.57/ton level achieves more mitigation (4.84 percent of emissions), than the 30-year payment plan at the \$0.85/ton level (3.11 percent). However, this represents the final state, in year 30, of the percentage of project emissions that will have finally been mitigated. When one considers that an upfront payment allows the entire 4.84 percent to be mitigated for the entire 30 years, the importance of an upfront payment becomes even clearer.

OR style mitigation: Different payment approaches					
Payment approach	Total mitigation payments (in millions of dollars)	Mitigation fee amount (dollars)	Total CO2 mitigated at current price of \$2.0/ton. (tons)	I. Mitigation percent of total & percent of lump sum amount	II. Mitigation percent of total & percent of lump sum amount
Upfront Lump sum	6.73	0.57/ton	3,362,827	4.84	4.84
Upfront Lump sum	10.03	0.85/ton	5,014,741	--	--
5 year pymt plan *	6.41	0.57/ton	2,934,474	4.23	4.60
	(6.73 real \$)			87%	95%
5 year pymt plan *	10.54	0.85/ton	4,375,970	6.30	6.88
	(10.03 real \$)			87%	95%
30 year pymt plan **	9.84	0.57/ton	1,446,420	2.08	3.49
	(6.73 real \$)			43%	72%
30 year pymt plan **	14.68	0.85/ton	2,156,942	3.11	5.20
	(10.03 real \$)			43%	72%

* Mitigation payment inflated at 2.5%/yr, CO2 mitigation cost inflated at 5 or 10%/yr, over 5yrs

** Mitigation payment inflated at 2.5%/yr, CO2 mitigation cost inflated at 5 or 10%/yr, over 30yrs

values in italics represent percent of lump sum mitigation

I. Represents CO2 mitigation cost inflated at 10% per year.

II. Represents CO2 mitigation costs inflated at 5% per year.

From a global mitigation perspective, it is not important whether low cost mitigation is achieved by this certificate holder in the state of Washington, or by another somewhere else. But it should be noted that acquisition of low cost mitigation produces more tons of CO₂ mitigation and that this may result in greater credit for the company if the nation eventually establishes greenhouse gas mitigation requires and a credit exchange. This should be recognized by Duke Energy as a true benefit of the upfront payments. Also, while a one time upfront payment provides the best result from a mitigation perspective we recognize that it represents a greater cost for Duke Energy than a payment plan, especially as it comes before any revenue stream can be generated through plant operations. We would accept a five-year payment plan for which precedent has already been set in the Sumas case. This would allow significant upfront payments while allowing Duke Energy to spread its costs a bit while profiting from a power production revenue stream.

We appreciate the opportunity to offer our comments to EFSEC. The CTED Energy Policy Division would be willing to provide any additional details or analysis of these or other mitigation strategies.